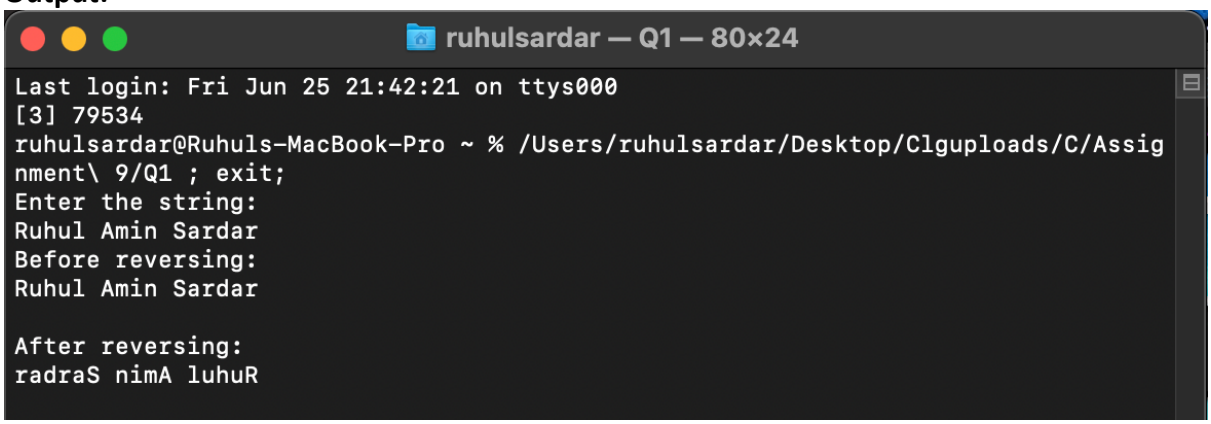
```c
//Q1. WACP to reverse a given string (of characters) without using library function.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
    char str[100];
    printf("Enter the string:\n");
    fgets(str,100,stdin);
    printf("Before reversing:\n");
    puts(str);
    int n = strlen(str)-1;
    int lo=0, hi=n-1, temp;
    while(lo<=hi){
          temp = str[lo];
          str[lo] = str[hi];
          str[hi] = temp;
          lo++;
          hi--;
    }
    printf("After reversing:");
    puts(str);

return 0;
}
```

Output:



```c
//Q2. Write your own strcpy(), strcat(), strlen (), strcmp() functions in C.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

void stringCopy();//for strcpy()
void stringAdd();//for strcat()
int stringLength();//for strlen()
int stringCompare();//strcmp()

//Function to find the length of a string.
int stringLength(char* Str){
      int i;
   for (i = 0; Str[i] != '\0'; i++);
return i;
}

//Function to copy one string to another.
void stringCopy(char* str1, char* str2){
     for(int i=0; str1[i]!='\0'; i++){
           str1[i]=str2[i];
     }
     puts(str1);
}

//Function to compare 2 strings.
int stringCompare(char* str1, char* str2){
      int i=0;
      while(str1[i]!='\0' || str2[i]!='\0'){
            if(str1[i]==str2[i])
            i++;
            break;
      }
      if(str1[i]==str2[i])
      return 0;
      else
      return 1;
}

//Function to add 2 strings.
void stringAdd(char* str1, char* str2){
      int i=0;
      while(str1[i]!='\0'){
            i++;
```

```
      }
      for(int j=0 ; str2[j]!='\0'; i++,j++){
            str1[i] = str2[j];
      }
      int n = stringLength(str1);
      str1[n] = '\0';
      puts(str1);
}

int main(){
    char str1[100], str2[100];


    printf("Enter Str1 :");gets(str1);
    printf("Enter Str2 :");gets(str2);

    printf("\nStr1 is :");puts(str1);
    printf("\nStr2 is :");puts(str2);

    int n1 = stringLength(str1);
    int n2 = stringLength(str2);
    printf("\nSize of str1 is %d",n1);
    printf("\nSize of str2 is %d",n2);

    printf("\n\nAfter adding str2 on str1:\n");
    stringAdd(str1,str2);

    int ret = stringCompare(str1,str2);
    if(ret == 0){
    printf("\nStr1 is equal to Str2\n");
    }
    else{
    printf("\nStr1 is not equal to Str2\n");
    }

    printf("\nAfter copying str2 to str1:\n");
    stringCopy(str1,str2);

return 0;
}
```

Output:

```
Enter Str1 :Geeky
Enter Str2 :Ruhul

Str1 is :Geeky

Str2 is :Ruhul

Size of str1 is 5
Size of str2 is 5

After adding str2 on str1:
GeekyRuhul

Str1 is not equal to Str2

After copying str2 to str1:
Ruhul
```

```c
//WACP to find the number of vowels, consonants, digits and special characters.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
     char str[100];
     printf("Enter the string:\n");
     fgets(str,100,stdin);
     //puts(str);
     int vow=0, cons=0, dig=0, sc=0,i=0;
     while(str[i]!='\0'){
           if((str[i] >= 65 && str[i] <= 90) || (str[i] >= 97 && str[i] <= 122)){
                if(str[i] == 'a' || str[i] == 'e' || str[i] == 'i' || str[i] == 'o' || str[i] == 'u'
                   || str[i] == 'A' || str[i] == 'E' || str[i] == 'I' || str[i] == 'O' || str[i] == 'U')
                  vow++;
                else
                  cons++;
           }
           else if(str[i]>='0' && str[i]<='9')
                dig++;
          else
               sc++;
          i++;
     }
     printf("\nNumber of vowels are: %d\n", vow);
     printf("Number of consonants are: %d\n", cons);
```

```
     printf("Number of digits are: %d\n", dig);
     printf("Number of special characters are: %d\n", sc);

return 0;
}
```

Output:

```
Enter the string:
B.P.Poddar Institute of Management and Technology 1 2 3

Number of vowels are: 15
Number of consonants are: 27
Number of digits are: 3
Number of special characters are: 11
```

```
//WACP to delete all vowels from a sentence.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
      char str[100];
     printf("Enter the string:\n");
     fgets(str,100,stdin);
     int i = 0;
     int n = strlen(str);
     while(str[i]!='\0'){
          if((str[i] >= 65 && str[i] <= 90) || (str[i] >= 97 && str[i] <=
122))
          {
                if(str[i] == 'a' || str[i] == 'e' || str[i] == 'i' ||
str[i] == 'o' || str[i] == 'u'
                   || str[i] == 'A' || str[i] == 'E' || str[i] == 'I' ||
str[i] == 'O' || str[i] == 'U')
                   {
                        for(int j = i ; str[j]!='\0' ; j++ ){
                              str[j]=str[j+1];
                        }
                   }
          }
          i++;
```

```
    }
    printf("After deleting all the vowels from the string: \n");
    puts(str);

return 0;
}
```

Output:

```
Enter the string:
what is your name
After deleting all the vowels from the string:
wht s yur nm
```

```
//WACP to print the acronym of a name e.g. print D.V.C. for Damoder Valley
Corporation.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
    char str[100];
    printf("Enter the string:\n");
    fgets(str,100,stdin);
    int n = strlen(str);
    char acro[n];
    int i,j=0;
    acro[j] = str[0];
    acro[++j] = '.';
    ++j;
    for(int i=1 ; str[i]!='\0'; i++){
          if(str[i]==' '){
              acro[j]=str[i+1];
              acro[j+1]='.';
              j+=2;
          }
    }
    int n2 = strlen(acro);
    acro[n2]='\0';
    printf("The acronym of %s is %s\n", str, acro );

return 0;
}
```

Output:

```
Enter the string:
Damodar Valley Corporation
The acronym of Damodar Valley Corporation
 is D.V.C.
```

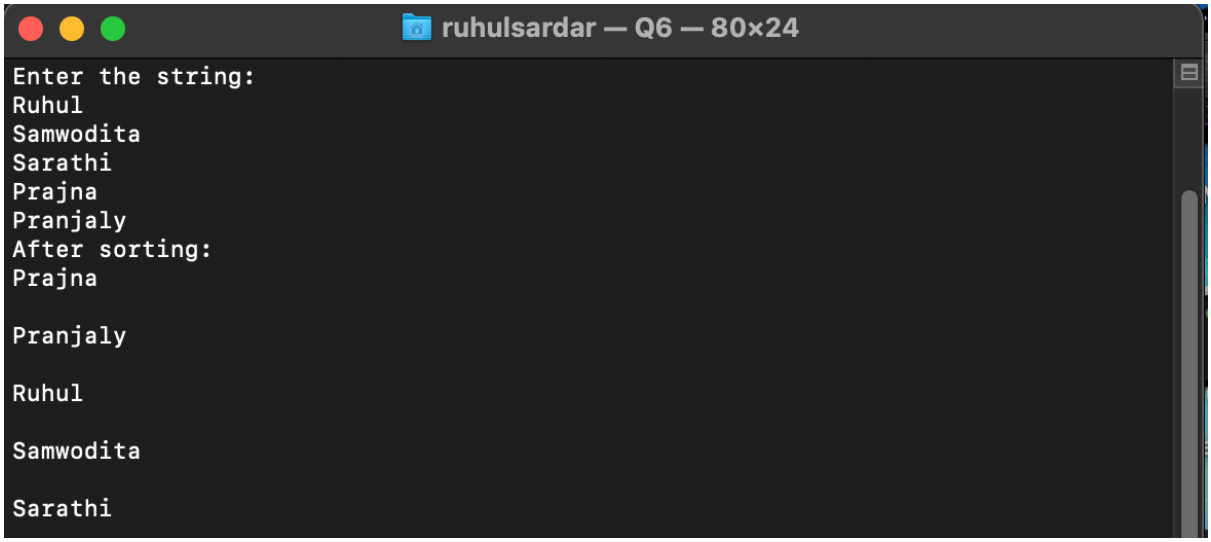
```c
//WACP to perform dictionary sorting.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
      char str[5][100];
      int res,i,j;
    printf("Enter the string:\n");
    for(int i=0; i<5; i++){
         fgets(str[i],100,stdin);
    }
    int temp[5];

    for(i=0; i<5; i++){
          for(j=0; j<4-i; j++){
              res = strcmp(str[j],str[j+1]);
              if(res>0){
                    strcpy(temp,str[j]);
                    strcpy(str[j],str[j+1]);
                    strcpy(str[j+1],temp);
              }
          }
    }
    printf("After sorting:\n");
    for(int i=0; i<5; i++){
        puts(str[i]);
    }

return 0;
}
```

Output:




```c
// WACP to find whether a String is Palindrome or not.
#include<stdio.h>
#include<string.h>
#include<stdlib.h>

int main(){
          char str[100];
     printf("Enter the string:\n");
     fgets(str,100,stdin);
     int n = strlen(str)-1;
     int copy_of_str1[n];
      strcpy(copy_of_str1,str);
    int lo=0, hi=n-1, temp;
    while(lo<=hi){
          temp = str[lo];
          str[lo] = str[hi];
          str[hi] = temp;
          lo++;
          hi--;
    }
    int ret = strcmp(copy_of_str1,str);
    if(ret == 0){
          printf("Yes palindrome\n");
    }
    else
          printf("Not palindrome\n");

return 0;
}
```

Output: